CLAIMS

What is claimed is:

1.   A method of producing a sampled image comprising the steps of:

    providing a plurality of sensor positions in a row arrangement

5   non-uniformly distributed with varying distances between each adjacent pair of

sensor positions according to a first predetermined schema; and

    sampling an image by sequentially exposing image portions to said

row arrangement to obtain a first set of data samples representing

non-uniformly spaced points in said image.

10   2.   The method as set forth in Claim 1 wherein said first predetermined schema

comprises a pseudo-random schema.

3.   The method as set forth in Claim 1 wherein said first predetermined schema

comprises a nonlinear polynomial schema.

4.   The method as set forth in Claim 1 further comprising the step of assigning

15   a reference identifier to said first predetermined schema.

5.   The method as set forth in Claim 1 wherein said step of sampling an image by

sequentially exposing image portions to said row arrangement comprises

selectively sampling according to a second predetermined schema such that

each sensor position is sampled in a non-uniformly varying spatial manner.

20   6.   The method as set forth in Claim 5 wherein said second predetermined schema

comprises a pseudo-random schema.

7.   The method as set forth in Claim 5 wherein said second predetermined schema

comprises a nonlinear polynomial schema.

8.   The method as set forth in Claim 5 further comprising the step of assigning

a reference identifier to said first predetermined schema.

9.   The method as set forth in Claim 1 further comprising the step of interpolating

5   a set of data samples representing uniformly spaced data samples from said

first set of data samples.

10.   A computer readable medium encoded with software for producing a sampled

image using an sensor array having sensor positions in a row arrangement

distributed with varying distances between each adjacent pair of sensor

10   positions according to a first predetermined schema, said software causing

a processor to perform the steps of:

sequentially exposing image portions to said row arrangement; and

sampling said sensor positions to obtain a first set of data samples

representing non-uniformly spaces points in said image.

15   11.   The computer readable medium as set forth in Claim 10 wherein said software

for sampling said sensor positions comprises software for selectively sampling

according to a predetermined schema such that each sensor position is

sampled in a non-uniformly varying spatial manner.

12.   The computer readable medium as set forth in Claim 11 wherein said

20   predetermined schema comprises a pseudo-random schema.

13.   The computer readable medium as set forth in Claim 11 wherein said

predetermined schema comprises a nonlinear polynomial schema.

14.   The computer readable medium as set forth in Claim 10 further comprising software for interpolating a set of data samples representing uniformly spaced data samples from said first set of data samples.

15.   A system for producing a sampled image comprising:

          a plurality of sensors positioned in a row arrangement distributed with varying distances between each adjacent pair of sensor according to a first predetermined schema; and

          means for sampling an image by sequentially exposing image portions to said row arrangement to obtain a first set of data samples representing non-uniformly spaces points in said image.

16.   The system as set forth in Claim 15 wherein said first schema for sensor positioning is a pseudo-random schema.

17.   The system as set forth in Claim 15 wherein said first schema for sensor positioning is a nonlinear polynomial schema.

18.   The system as set forth in Claim 15 wherein said means for sampling an image comprises a means for selectively sampling according to a second predetermined schema such that each sensor position is sampled in a varying spatial manner.

19.   The system as set forth in Claim 18 wherein said second predetermined schema comprises a pseudo-random schema.

20.   The system as set forth in Claim 18 wherein said second predetermined schema comprises a nonlinear polynomial schema.

21.   The system as set forth in Claim 15 further comprising a means for generating

a uniformly-spaced data sample by interpolating said first set of data samples.